NEOPRENE BIB WITH MATERIAL FACE

The present invention relates to a bib, as used by babies and toddlers, and the material the bib is constructed of and, in particular, bibs with pockets for catching spilt food and drink.

Many different types of baby bibs exist, and are well known. More specifically, many types of designs of bibs with pockets exist but each suffers from the disadvantages described accordingly forthwith with each bib type. It is particularly reusable bibs that are relevant, and that are discussed, in relation to the present invention; the present invention being of the reusable type.

Types of bib include injection moulded plastic bibs which use a relatively rigid plastic material all over for the construction. Plastic moulded bibs are wipe-clean and, being quite rigid, are only suitable for meal times. As the pocket is an integrated part of the moulding it is therefore also quite rigid, with only slight flex possible. Because the pocket is permanently protruding out, permanently wide and generally inflexible it makes it difficult for the child to reach the table and can hinder body movement, particularly the arms when feeding or playing. The plastic is generally quite uncomfortable on the skin around the neck.

Other types of bib include rubber injection moulded bibs, also with permanently formed pockets. Although rubber bibs have more flexibility than plastic ones the permanently formed pocket protruding both forward and width-ways can still be annoying to the child at play and partially hinder arm movement. Rubber bibs are not particularly elastic and so can become mis-shaped after time, particularly if rolled up for storage, causing further annoyance if they do not rest against the chest naturally, but spring outwards. Again, rubber can be uncomfortable to the child's skin around the neck as the grade of rubber is normally quite dense, quite firm and its high friction surface can feel clammy to the touch.

Known rubber bibs include those in patents referenced GB 2334200 A, Jephson Robb and EP 1090560 A3, The Robbo Company Limited.

Others include bibs made up of either solely, or a mixture of, thin flexible materials such as plastic sheet, woven nylon or polyester sheet, terry toweling and cotton sheet. The pockets on these are normally simply a piece of one of the aforementioned materials sewn onto the front of the main bib around the sides and bottom edges, producing a predominantly flat pocket which, while is less obtrusive to the child, results in a limited opening that is unlikely to catch many spillages. Several devices have been patented, although few are on the market, that aim to address this issue, such as springs, clips and insert parts and generally are not elegant solutions with the disadvantages that they can be easily mislaid, broken or add expense. A further problem with these types of bibs is that the thin plastic and woven nylon sheet backings, acting as a waterproof layer, can degrade and split over time, particularly if tumble dried, so these bibs generally have a limited lifetime. Bibs without a waterproof backing, such as just toweling or cotton bibs, suffer from the problem that the child's chest can become wet if spilt drinks or excess dribble soaks through.

Others bibs include those made up of a composite of impervious materials with a piece of the same material bonded flat on the back face by an adhesive around the side and bottom edges whereby when it is folded inside out it forms a more open pocket on the front face due to the width and stiffness of the beading of adhesive, with the benefit that the bib is flat and thin when it folded back flush. This type, however, has the same problem as the plastic bibs in that the adhesive is required to dry relatively stiff to create the desired material formation effect for the pocket, thus creating a rigid structure to the pocket area of the bib that can, again, annoy the child and hinder arm movement. These bibs also require the stiff adhesive bonding line to be quite wide, spanning from the edge of the bib to at least three eights of an inch (9.5mm) from the edge to the to achieve the formation effect. This width not only exacerbates the stiffness problem but creates an undesirably large upstanding lip inside the pocket. This wide and quite inflexible lip also does not allow the pocket to fold neatly around the corners placing stress on the bond. These types

of bib use a composite of different materials bonded together to form the sheet material. This has the disadvantage of requiring an extra production process to create the lamination, which adds expense, and has the risk of delaminating during use, particularly during washing and tumble drying.

An object of this invention is to provide a bib, and particularly a bib with a pocket, whereby, in a bib with a pocket, the pocket can be stored flat on the back face of the bib, to allow the child full arm movement if, for instance, wearing the bib whilst playing and hence not needing the food catcher, but which can be quickly turned in-side-out to naturally form a narrow front protruding open pocket for snack or meal times, and which uses a soft, flexible, waterproof, long-life and robust material and a joining method that results in the formed bib and pocket being soft and pliable, with flexibility constant throughout its structure, with a small lip for the pocket for increased flexibility, using a material that is gentle on the child's skin and can deflect easily and comfortably if pushed by the child's arms or squashed up against a table edge, yet return to its original formed pocket shape and/or its flat state every time by its elastic properties.

Accordingly, this invention provides a bib, and particularly a bib with a pocket, made up of neoprene sheet covered in a material facing on at least one side, as typically used for making wetsuits, whereby the bib with a pocket is constructed by one small piece of neoprene being sewn flat onto the back face of another larger piece of neoprene, around the bottom and side edges, which can be turned in-side-out to form an open, yet soft and pliable pocket on the opposite face by the fact that the neoprene material maintains a firm yet flexible shape and has a constant bend characteristic with natural elasticity of which the ease of deformation is complimented by the use of sewing with naturally soft thread for the join line, along a line less than three eighths of an inch (9.5mm) from the edge for a conveniently small lip.

The use of neoprene sheet, covered in a material facing on at least one side, to make the bib and bib pocket according to the present invention is what gives the present invention so many advantages over the prior art described bibs.

Neoprene meets the objectives of the present invention well in that it is very flexible, soft to the child's skin, waterproof, elastic (so it always returns to its original shape), readily cleanable, is a long life and robust material and maintains a good form throughout its structure which enables such a well formed in-side-out pocket to be made, as described above.

The use of neoprene is ideal for creating the bib pocket in the open position in that the neoprene bends gently in a generally constantly curved manner, thus creating a smooth flowing form from the child's shoulders to the tip of the pocket. This smooth pocket formation naturally and automatically narrows the width of the bib near the front pocket area and thus creates more space for the child's arms to move each side of the bib. Even if the child squashes the formed bib pocket sideways with their arm, or pushes it forward up against the table edge, the material will gently and comfortably deflect and spring back into its original shape.

The use of sewing and the small size of the lip of the join area, achievable by the fact that the distance from the sew-line to the edge is less than three eighths of an inch (9.5mm), also means the bib has good flexibility through the sewn join line area as well as in the main neoprene areas.

The flexibility, elastic and stretchy characteristic of the neoprene combined with the flexible join is what allows the bib and pocket to naturally create and maintain their form so well. This characteristic also allows the whole bib to readily return to its flat state when folded back by the fact that there is little stress on any parts of the bib material or the joint area.

In an alternative embodiment of the aforementioned present invention the sew line could be any distance from the edge, to suit the desired flexibility of construction. It could also be more than one sew line.

Preferably the shape of the bottom of the bib is to be rounded to create a more flowing form from top to bottom when in the open mode. The avoidance of hard corners will also allow easier cleaning and less stress on the joint area when being folded in and out.

Neoprene also offers the benefits that it can be wiped clean relatively easily and is naturally waterproof so is ideal to prevent moisture reaching the child's chest. Neoprene is also ideal as a liquid spill catcher pocket material. Simply sewing the pocket part onto the main neoprene part is enough to make the pocket watertight, so no glue is needed, although glue could added if required.

Neoprene is also ideal as it is not a composite of laminations, although normally it has a woven material facing on one or both faces for a soft feel, and is strong for long term use and particularly robust when washed and dried in washing and tumble drier machines. The material facing also has the advantage that it allows the neoprene rubber to be a softer grade of rubber than prior art described plain rubber bibs and thus the softer rubber and material facing increases overall comfort for the child in terms of the bib having better flexibility, better elasticity, a lower weight and more friendly feel on the skin. The material facing on the neoprene is particularly important in the purpose of baby bibs in terms of safety as it adds significant strength to the soft rubber neoprene and, crucially, prevents the child biting off chunks of rubber that could otherwise choke the child. The material facing is preferably woven nylon, although it may be any other suitable material, such as woven polyester, and may be any other suitable material that is woven or non-woven.

Preferably the edges of the neoprene would be finished with an edging strip, typically of cotton sheet bias binding, for protection, increased softness on the child's skin and to improve the appearance.

Preferably the main and larger piece of neoprene would be cut to a shape that includes strips that allow the bib to be positioned over the shoulders and around the neck and, accordingly, would include fixing devices, such as snap-fixings, to ensure the bib is

connected around the child's neck securely. This is preferable to a straight through hole to put the child's head through which has the problem that it does not adjust to different head crown diameters, which could potentially cause distress to the child when putting on or taking off that type of bib.

Further details may be added to the bib such as absorbent material sewn to the front face to absorb dribble and drinks spillages.

Other embodiments of the present invention are possible and include using a material for the pocket part other than neoprene, such as woven nylon. Another embodiment could include sewing the pocket onto the main neoprene part in a permanently formed state by the fact that the width of the pocket part is wider than the base material part until sewn together, causing it to protrude outwards. In this latter version the pocket part could be held flat, when not needed, by fixings between the two parts and pulled outwards when needed, or folding back on itself to become relatively flat.

Further more, another embodiment would be to use the advantages of neoprene, i.e. soft and comfortable around the neck, flexible, easily cleanable, robust and waterproof, but without the pocket feature. This neoprene bib without a pocket would be considered for a lower cost version of the present invention.

It should be noted that the description of 'front' and 'back' faces of the bib are relative as it may be preferable for the pocket to be in the open position on a side of the bib that is not considered the front, i.e. the front face may be considered the one with branding or with absorbent toweling, yet it may be desirable to have the open pocket on the opposite face, normally called the back, and simply turn the bib over so that the open pocket is now on the front. This present invention relates to both scenarios.

Preferred embodiments of the invention will now be described with reference to the accompanying drawings in which:

FIGURE 1 shows the rear view of the bib with the pocket in the flat position,

FIGURE 2 shows a side view of the bib with the pocket in the flat position,

FIGURE 3 shows the front view of the bib with the pocket folded in-side-out to form an open pocket.

FIGURE 4 shows a side view of the bib with the pocket folded in-side-out to form an open pocket

As shown in Figure 1, the bib comprises of a main part of neoprene 1 with neck loop shape 6 leading to a fastening device 4, a smaller piece of neoprene 2 to create the pocket, an edging material 3 and stitching 5 to secure the edging material 3 around all edges of the bib material and also to fix the pocket material 2 to the main part 1 around the bottom and side edges. The top edge of part 2 remains unattached to part 1. The stitching 5 is preferably a single row of stitched thread for maximum flexibility.

A bib according to the present invention but without a pocket would appear similar to the drawing of Figure 1 but would not include the pocket material 2 or the pocket's top edging material 3.

Figure 2 is a side view of the bib showing the fastening device 4 and with the pocket material 2 in the flat position.

Figure 3 shows a front view of the bib with the pocket 2 formed into the open mode by folding in-side-out. Note how this view shows how the bib becomes conveniently narrower automatically as the pocket is formed, which gives the child more sideways arm space for feeding themselves or reaching out.

Figure 4 is a side view illustrating the open pocket mode clearly. This view shows how smoothly the main material 1 naturally flows into the pocket material 2.